

**CHRISTENSEN**  
ASSOCIATES

## **Analysis of the PAEA's CPI-Based Price Cap System and Options for Future Postal Regulation**

Christensen Associates  
800 University Bay Drive, Suite 400  
Madison, WI 53705-2299

March 20, 2017

## Table of Contents

|   |           |
|---|-----------|
| <b>INTRODUCTION.....</b>  | <b>1</b>  |
| <b>OVERVIEW OF PRICE REGULATION UNDER THE POSTAL ACCOUNTABILITY AND ENHANCEMENT ACT .....</b>               | <b>2</b>  |
| <b>THE CPI-BASED PRICE CAP SIGNIFICANTLY UNDERMINED THE FINANCIAL STABILITY OF THE POSTAL SERVICE .....</b> | <b>6</b>  |
| THE FINANCIAL IMPACT OF THE CPI-BASED PRICE CAP FORMULA ON POSTAL SERVICE FINANCES .....                    | 6         |
| WHY LOST MAIL VOLUME LED TO FINANCIAL LOSSES UNDER THE CPI-BASED PRICE CAP .....                            | 7         |
| PRODUCT PRICING ISSUES FOR THE PAEA PRICE CAP.....  | 10        |
| <i>CPI Caps Apply to Classes of Mail Individually .....</i>   | <i>10</i> |
| <i>Class-level Price Caps Inhibit Pricing Efforts to Deal with “Underwater” Products.....</i>               | <i>10</i> |
| WHAT PAEA OBJECTIVES ARE NOT MET BY THE CURRENT RATE REGULATION SYSTEM? .....                               | 11        |
| <b>REGULATORY SYSTEMS USED IN OTHER U.S. INDUSTRIES AND POSTAL SECTORS OF OTHER COUNTRIES .....</b>         | <b>12</b> |
| REGULATION OF THE U.S. FREIGHT RAILROAD INDUSTRY .....  | 12        |
| REGULATION OF THE U.S. TELECOMMUNICATIONS INDUSTRY .....  | 14        |
| REGULATION OF THE U.S. ELECTRIC UTILITY INDUSTRY .....  | 15        |
| REGULATION OF U.S. OIL PIPELINES .....  | 17        |
| RATE REGULATION OF OTHER POSTS .....  | 18        |
| <i>Royal Mail .....</i>   | <i>19</i> |
| <i>Deutsche Post.....</i>   | <i>21</i> |
| <i>La Poste.....</i>  | <i>22</i> |
| <i>Canada .....</i>   | <i>23</i> |
| <i>Australia .....</i>  | <i>24</i> |
| SUMMARY OF REGULATORY REVIEW AND KEY LESSONS FOR POSTAL REGULATION .....                                    | 26        |
| <i>Other U.S. Industries .....</i>  | <i>26</i> |
| <i>Other Posts.....</i>   | <i>28</i> |
| <b>ALTERNATIVE FORMS OF REGULATION FOR THE POSTAL SERVICE.....</b>  | <b>28</b> |
| THE NECESSITY OF RESETTING MARKET-DOMINANT PRICES AS A FIRST STEP .....                                     | 29        |
| <i>EX POST</i> REGULATION .....   | 30        |
| <i>Assessment.....</i>  | <i>31</i> |
| IMPORTANT CONSIDERATIONS FOR <i>EX ANTE</i> FORMS OF REGULATION .....                                       | 31        |
| <b>CONCLUSION .....</b>   | <b>34</b> |
| <b>APPENDIX: KEY FEATURES OF THE ROYAL MAIL PRICING FLEXIBILITY REGIME .....</b>                            | <b>36</b> |

## **Analysis of the PAEA's CPI-Based Price Cap System and Options for Future Postal Regulation**

### **INTRODUCTION**

In 2006, the United States Congress passed the Postal Accountability and Enhancement Act (PAEA), which radically changed the way in which Postal Service rates were established. Prior to PAEA, Postal Service rates were determined using a “cost of service” approach established by the Postal Reorganization Act (PRA). Under the PAEA, the PRA cost-of-service system was abolished. The Postal Rate Commission was reconstituted as the Postal Regulatory Commission and was tasked with establishing a “modern” system of rate regulation.

In this paper, we first review key features of the PAEA relating to price regulation of the Postal Service, and then discuss Postal Service performance under the PAEA's CPI-based price cap formula, by reference to the PAEA's objectives. We conclude that the current regulatory system for market dominant rates and classes is not meeting statutory criteria, particularly relating to the financial stability of the Postal Service, providing the Postal Service with pricing flexibility, and the establishment of just and reasonable rates.

Next, we provide an overview of the economic principles underlying rate regulation and their application across various regulatory systems found in other U.S. industries and foreign posts. We conclude that the economic principles underlying these various regulatory approaches serve similar goals as the PAEA's objectives: ensuring adequate revenues, promoting efficiency, providing for just and reasonable rates, and offering pricing flexibility. Regarding lessons for regulation of the Postal Service, the various approaches surveyed have attempted, to the degree possible, to emulate competitive processes in the establishment of just and reasonable rates. Some have done this through some type of cap on prices or revenues, while others have relied on a more flexible *ex post* complaint and review process to regulate market dominant rates.<sup>1</sup> Regardless of the particular approach, it is prudent to allow adjustments to mechanisms, periodic plan reviews, and/or plan exit contingencies as there will likely exist an element of uncertainty and a learning curve when a plan is adopted.

Finally, given the fact that the CPI-based price cap has not achieved the PAEA's objectives, we consider modifications and alternatives to the price cap for the Postal Service. Regarding modifications, to achieve the goals embodied in the PAEA's objectives, price or revenue caps must often incorporate multiple factors to reflect industry or firm-specific circumstances (e.g., unanticipated changes in volumes), automatic stabilizers, off-ramps, and periodic true-ups and fine-tuning. At the very least, a fundamental lesson from our review of the various price cap and revenue cap approaches is that to accomplish its goals, any cap formula needs to consider expected industry unit cost trends. Alternative regulatory approaches include *ex post* price regulation (e.g., United Kingdom postal services as a replacement for its revenue cap, and U.S.

---

<sup>1</sup> *Ex post* and *ex ante* approaches to rate regulation are described below.

railroad industry). In these industries, pressures from declining demand were an important reason for the move to *ex post* regulation. In terms of meeting the objectives of the PAEA, we conclude that *ex post* price regulation holds promise for achieving the objectives of the PAEA. Such regulation would also not present the risks and complexities that would arise in attempting to achieve the objectives through a more appropriate price cap system.

## **OVERVIEW OF PRICE REGULATION UNDER THE POSTAL ACCOUNTABILITY AND ENHANCEMENT ACT**

The PAEA distinguished two groups of Postal Service products: market dominant products and competitive products. Initially the group of competitive products included Priority Mail, Express Mail, bulk Parcel Post, and bulk international mail, with all other Postal Service products considered market dominant.

Under PAEA, competitive product prices are regulated primarily through a set of price floors. Prices for competitive products must individually cover the attributable costs for the products,<sup>2</sup> and collectively must cover group incremental costs and the Commission-determined appropriate share of Postal Service institutional costs. Otherwise, the Postal Service can set competitive product prices according to market conditions, and establish mailer-specific contract prices not of general applicability (via Negotiated Service Agreement or NSAs), with limited review. The Postal Regulatory Commission (Commission) has the authority to move products from the market-dominant group to the competitive group if the product is not part of the postal monopoly and if the Postal Service does not have sufficient market power to raise prices substantially above cost without losing significant volume.

Market dominant products are regulated through a set of price ceilings. For market dominant products, PAEA established a price cap regulation system, with a limitation of rate increases to changes in the Consumer Price Index (CPI) its central requirement. Congress set forth a number of “objectives” that the ratemaking system is required to achieve, and generally recast the ratemaking criteria under the PRA as “factors” for consideration in the new system. Each Postal Service class of mail within the market dominant category constitutes its own “basket.” Within each basket there are no individual limits on rate changes (subject to limits on discounts described below), but for each class collectively the average rate increase is limited by the CPI. If the Postal Service does not fully use its pricing authority under the CPI-based price cap in one year, it can “bank” the unused authority for use in any of the subsequent five years. Discounts for mailer prebarcoding, presorting, handling, or transportation of the mail are generally limited under the PAEA to not exceeding the Postal Service costs avoided by such worksharing activities.

---

<sup>2</sup> The Commission recently decided that “attributable costs” should mean incremental costs. Order No. 3506, PRC Docket No. RM2016-2 (Sept. 9, 2016).

The Commission only has the authority to allow rates to be adjusted above the price cap under “extraordinary or exceptional circumstances,” and then only if it deems the rate changes to be reasonable, equitable, and necessary to maintain the quality of postal services. This “exigent” authority was used once, allowing the Postal Service to temporarily increase rates in response to the lost mail volume and contribution due to the 2008-2009 Great Recession.

Finally, the CPI-based price caps were imposed for a ten-year period. At the end of the ten-year period, the Commission must review whether the PAEA price cap system for market dominant products is achieving the nine objectives laid out by the PAEA, taking into account the factors also listed in the PAEA. Following the review, the Commission may, by regulation, “make such modification or adopt such alternative system for regulating rates and classes for market-dominant products as necessary to achieve the objectives.”<sup>3</sup>

The nine “objectives” in PAEA for the modern system of rate regulation are:

1. To maximize incentives to reduce costs and increase efficiency.
2. To create predictability and stability in rates.
3. To maintain high quality service standards.
4. To allow the Postal Service pricing flexibility.
5. To assure adequate revenues, including retained earnings, to maintain financial stability.
6. To reduce the administrative burden and increase the transparency of the ratemaking process.
7. To enhance mail security and deter terrorism.
8. To establish and maintain a just and reasonable schedule for rates and classifications.
9. To allocate the total institutional costs of the Postal Service appropriately between market-dominant and competitive products.<sup>4</sup>

The “factors” that the Commission is to take into account when evaluating the system of rate regulation include: the value of the mail service; the requirement that each class of mail cover its direct and indirect cost plus make a contribution to covering the institutional cost of the Postal Service; the effect of the rate increase on the general public; the availability of alternative means of sending and receiving mail; the degree of mail preparation performed by the mailer; the simplicity of the rates and classification schedule; the importance of pricing flexibility; the relative value of different types of mail; the importance of speed and reliability of the mail; the ability of the Postal Service to improve its financial position and enhance Postal Service performance; the educational, cultural, scientific, and informational value of the mail; the promotion of intelligent mail and secure sender-identified mail; and the policies of Title 39, U.S. Code, and any other factors that the Commission might deem appropriate.<sup>5</sup>

---

<sup>3</sup> 39 USC §3622(d)(3).

<sup>4</sup> 39 USC §3622(b)(1)-(9).

<sup>5</sup> 39 USC §3622(c)(1)-(14).

In reviewing the performance of the PAEA's system of CPI-based price caps for market dominant products over the last ten years, it is clear that the system has not met all of the nine objectives listed in the PAEA. The following provides a broad assessment of the PAEA's CPI-based price cap system in meeting seven of the objectives related to price regulation. For this purpose, we have not provided an assessment of service standards (objective 3) or mail security (objective 7), as these are only indirectly affected by the CPI-based price cap to the degree that the cap did not provide adequate revenues:

*1. To maximize incentives to reduce costs and increase efficiency.*

There is little evidence that the CPI-based price cap stimulated additional productivity gains. Furthermore, the incentives that a price cap provides to private sector firms through the profit motive are not applicable to the public sector. Incentives for Postal Service efficiency gains are independent of the profit incentive provided by the price cap.

*2. To create predictability and stability in rates.*

The market dominant price cap system has favored the rate stability objective over objectives related to financial stability and revenue adequacy. Given low inflation—due to both Federal Reserve policies targeting two percent inflation and disinflation associated with the Great Recession—rate increases have generally been predictable and stable.

*4. To allow the Postal Service pricing flexibility.*

CPI cap pricing authority was insufficient to implement the necessary pricing flexibility for market dominant rate adjustments.

*5. To assure adequate revenues, including retained earnings, to maintain financial stability.*

As noted above, rate stability has been favored over objectives related to financial stability and revenue adequacy. Clearly the substantial financial losses incurred by the Postal Service over the last ten years show that this form of rate regulation did not assure adequate revenues to maintain financial stability or to fund needed investments.

*6. To reduce the administrative burden and increase the transparency of the ratemaking process.*

The system has succeeded at lowering the administrative burden of rate changes, due to the fact that rate increases no longer occur through an intensive litigation process. However, many issues previously considered through rate change cases have shifted to other proceedings such as the annual compliance review, rulemakings concerning costing methodologies, and other types of proceedings. Transparency has also increased compared to the prior system.

8. *To establish and maintain a just and reasonable schedule for rates and classifications.*

The CPI limits for market-dominant classes did not allow the Postal Service to set compensatory rates.<sup>6</sup>

9. *To allocate the total institutional costs of the Postal Service appropriately between market-dominant and competitive products.*

The “appropriate share” floor established by the Commission for the competitive products’ contribution to institutional costs has not been a binding constraint on competitive product rates, and indeed growth in competitive prices and volumes has allowed competitive products to cover an increasing share of institutional costs, above and beyond that “appropriate share.” Thus, while this objective has been met from the standpoint of competitive products, the CPI-based price cap has not allowed the Postal Service to cover total institutional costs.

In addition, this form of rate regulation ultimately failed to give the Postal Service the necessary flexibility to establish rates that would prevent some market dominant products from being cross-subsidized by other products (including products in other classes).

It is imperative that any market-dominant regulatory system allow the Postal Service to earn adequate revenues to maintain financial stability while maintaining high quality service standards, and that rates be compensatory but not excessive (i.e., “just and reasonable”). The system should also avoid disincentives to eliminating the cross-subsidization of products whose revenues are currently less than their attributable costs. The PAEA’s initial price cap system has failed to do so. Moreover, the current price cap system cannot be justified as necessary to incentivize cost reductions and efficiency gains. The current price cap system does arguably provide predictability, stability, transparency, and a limited measure of pricing flexibility, but those accomplishments (and the eminent possibility of alternative ways to meet the same goals) cannot justify maintaining a system that has failed in other fundamental regards.

---

<sup>6</sup> The “just and reasonable” standard of rate review is meant to balance regulated firm and consumer interests and is a fundamental principle of public utility regulation. Landmark U.S. Supreme Court cases have established that regulated utilities are entitled to a reasonable opportunity to recover prudently-incurred costs (*Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944)) and are entitled to earn a fair and reasonable return on capital investments (*Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923)). In balancing firm and consumer interests, rates should be as low as possible, predictable over time and non-discriminatory. As described by Alfred Kahn:

[T]he courts and commissions have characterized the entire task of setting ‘just and reasonable rates,’ and particularly that portion representing return to shareholders, in terms of reaching an acceptable compromise between the interests of investors on the one hand and consumers on the other.

See Alfred E. Kahn, *The Economics of Regulation, Principles and Institutions*, The MIT Press, Cambridge MA, 1988, Volume I, p. 42.

While remedying the PAEA price cap system's failures with respect to the financial stability objective is of primary importance, we recognize that an alternative system of rate regulation must also meet the PAEA's objectives. Indeed, as discussed further in Part II, rate regulation in general seeks to ensure both that a regulated entity has appropriate incentives to be efficient, while at the same time protecting firm's financial integrity.

## **THE CPI-BASED PRICE CAP SIGNIFICANTLY UNDERMINED THE FINANCIAL STABILITY OF THE POSTAL SERVICE**

### **The Financial Impact of the CPI-Based Price Cap Formula on Postal Service Finances**

One important reason why the CPI-based price cap undermined the financial stability of the Postal Service is that the cap was fixed for a ten-year period, with no opportunity to reevaluate the cap as the postal environment changed significantly. A 2013 United States Postal Service Office of Inspector General Report (OIG) summarized the problems associated with the CPI-based price cap in the era of significant mail volume declines:

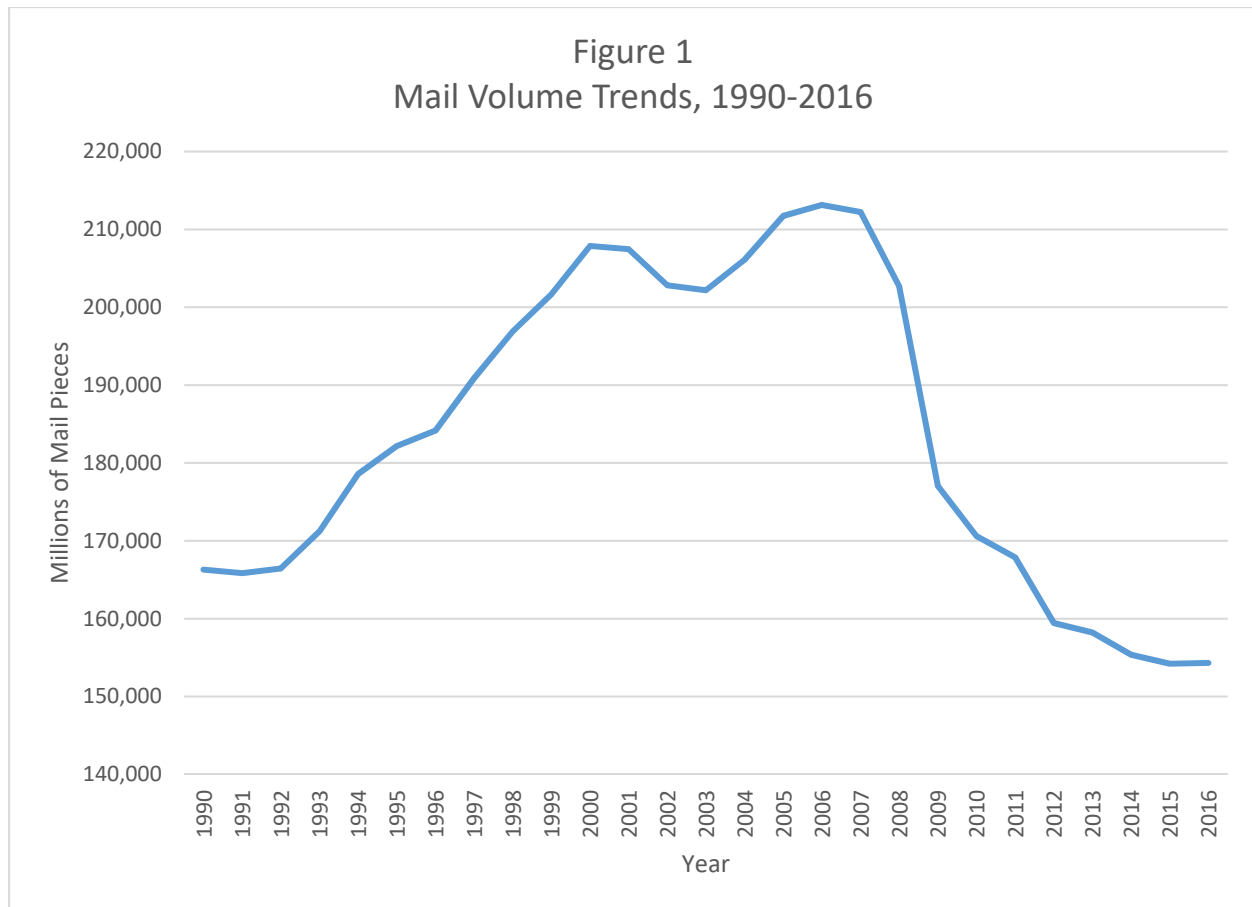
The Postal Service's financial viability under the price cap is highly dependent on mail volume. When the current price cap formula was enacted in 2006, postal volumes had been trending upward... Few analysts or policymakers foresaw the recent steep decline in mail volume, or contemplated the impact on the Postal Service of such a decline combined with the price cap. ... As the Postal Regulatory Commission (PRC) found in its 2011 Annual Compliance Determination, '[t]he combination of the price cap and the continuing decline of First Class Mail prevents the Postal Service from generating sufficient funds from mail users to cover its institutional costs.'<sup>7</sup>

Figure 1 shows the trends in mail volume (total pieces) before and after FY 2006. As one can see from the figure, mail volume had been trending upward through FY 2006, although volumes had begun to plateau around the year FY 2000. But annual mail volume peaked at 213 billion pieces in FY 2006, and over the next five years the Postal Service annual mail volume dropped by 45 billion pieces. Mail volume has continued to decline and in FY 2016, annual mail volume was only 154 billion pieces, a drop of 59 billion pieces from its peak.

---

<sup>7</sup> U.S. Postal Service Office of Inspector General, *Revisiting the CPI-Only Price Cap Formula*, RARC-WP-13-007, April 12, 2013, p. ii.





As will be discussed below, Postal Service financial viability under the CPI-based price cap is directly related to the trend in mail volume. The CPI-based price cap would have been a more feasible limit on Postal Service prices in an era where mail volume was increasing, but became infeasible once Postal Service mail volume had its dramatic decline.

#### **Why Lost Mail Volume Led to Financial Losses Under the CPI-based Price Cap**

Once Postal Service market dominant mail volumes began to decline, it would have been necessary for the Postal Service to raise rates (on average) for market dominant products above the rate of CPI increase in order to maintain financial stability. Because most market dominant products have relatively inelastic demands, the net impact of such rate increases would be to increase Postal Service net income. Furthermore, the size of the necessary price increase is tied to the size of the mail volume loss. Consequently, during periods where the size of the mail volume loss is uncertain, it is difficult to determine before the fact what the appropriate rate increase should be.

According to the FY 2016 Cost and Revenue Analysis, 53% of Postal Service costs are “volume variable.” This means that a one-percent increase in all Postal Service mail and services would

increase total cost by 0.53%, all else equal. When Postal Service mail and services decrease by one percent, costs only decrease by 0.53%, revenue decreases by approximately one percent, and the lost mail volume leads to net income losses. As the mail volume decreases become larger, the net income losses become larger, and larger rate increases are needed to maintain universal service.<sup>8</sup>

The primary reason why volume variable costs are a fraction of total costs is that the Postal Service has significant economies of density. Economists use the term economies of density in the context of network industries, that is, industries that provide services over a geographic area. The Postal Service provides mail service over a network of delivery points. Economies of density exist for the Postal Service because the average cost of the mail decreases as more letters are sent to each address.

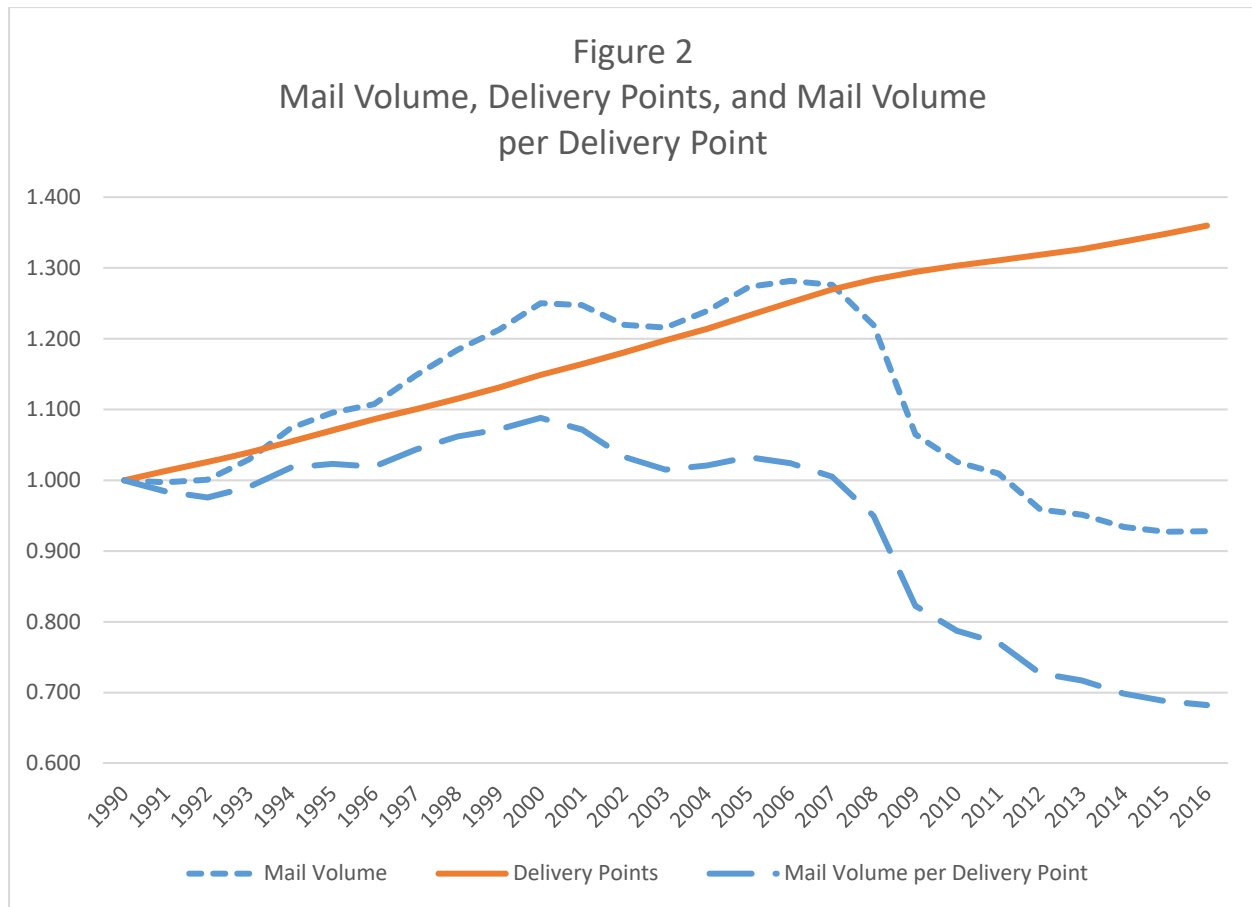
The presence of Postal Service economies of density can be seen by looking at delivery of the mail to individual addresses. Whether a carrier is delivering one letter or five letters to an address, the cost of delivering that mail to the address changes relatively little. As volume declines, it is more difficult for the revenue from the letters being delivered to cover the costs of delivery.<sup>9</sup> The CPI-based price cap did not make appropriate adjustments to rates when the amount of mail being delivered to each address declined.

While delivery of the mail to individual addresses is a clear illustration of economies of density, economies of density also arise in the collection, sortation, and transportation of the mail. As the network expands, the coordination of the flow between different delivery points in the network becomes more complex, adding to Postal Service costs, and as more and more mail is being distributed through a fixed network, the average cost of distributing each piece declines. Figure 2 compares the trends in mail volume, the number of delivery points, and the average number of mail pieces per delivery point.

---

<sup>8</sup> The 2013 OIG report simulated hypothetical results for the period 2010 through 2015 using various mail volume assumptions, ranging from a 1.1% annual increase in constant dollar revenue to a -4.0% annual change in constant dollar revenue. This range of output growth assumptions led to a \$12 billion range in net income over a five year period. See U.S. Postal Service Office of Inspector General, *Revisiting the CPI-Only Price Cap Formula*, RARC-WP-13-007, April 12, 2013, p. 44, Scenarios 1-3.

<sup>9</sup> Private sector network industries typically have a fixed customer charge to mitigate cost increases due to lost economies of density.



Furthermore, the difference between the price of a Postal Service product and its attributable cost varies by product. A 2012 report by the OIG noted that between FY 2000 and FY 2010 there was a significant shift in the composition of mail volume from mail that had large markups of price over attributable cost to mail with lower markups. These markups, which are called contribution in the Cost and Revenue Analysis reports, allow the Postal Service to cover its institutional costs. This report showed that while the number of mail pieces per delivery point decreased 27% between FY 2000 and FY 2010, the contribution-weighted pieces per delivery point decreased 32%.<sup>10</sup> Since FY 2010, volume declines have continued to shift the mail volume mix within the market dominant basket from higher-contribution products to lower-contribution products. Between FY 2010 and FY 2016, First-Class Mail, which has an average per-piece contribution of 25.7 cents, decreased 21%, while Marketing Mail (formerly Standard Mail), with an average per-piece contribution of 8.0 cents, decreased only 2%.<sup>11</sup>

<sup>10</sup> United States Postal Service Office of Inspector General, *State of the Mail*, RARC-WP-12-010, April 27, 2012, p. 22.

<sup>11</sup> See United States Postal Service Public Cost and Revenue Analysis reports for FY 2010 and FY 2016. Marketing Mail accounts for well over half of all market dominant mail volume.

## Product Pricing Issues for the PAEA Price Cap

### *CPI Caps Apply to Classes of Mail Individually*

In the discussion above, we have implicitly treated the PAEA price cap system as if it were a single cap applied to market dominant products collectively. This suffices to demonstrate the adverse effects of the CPI limitation on the Postal Service's finances as a whole. However, the PAEA actually imposes separate CPI caps for each class of mail.

With a single CPI cap applicable to all market dominant products, it would be possible for rate rebalancing across classes to lead to above-CPI increases for some classes of mail, offset by below-CPI increases for other classes. The class-level caps reinforce "predictability and stability in rates" by limiting classes' increases to the CPI index, at the expense of other PAEA factors and objectives, including promotion of efficiency, maintaining service quality, pricing flexibility, and providing for compensatory rates that may change by "unequal magnitudes within, between, or among" classes.

### *Class-level Price Caps Inhibit Pricing Efforts to Deal with "Underwater" Products*

The class-level PAEA caps create significant challenges for raising cost coverage for "underwater" products (products for which revenues fail to cover attributable costs) using pricing levers. If the underwater product's demand is inelastic, as is generally the case for the Postal Service's market dominant products, a "real" rate increase (i.e., an increase above the rate of inflation) would increase revenue for the product, while driving away some loss-making volume.<sup>12</sup> Thus, raising real rates is effective, although, depending on their size, the Postal Service would need to assess how to implement the necessary rate increases to take into account customer concerns.

In practice, cost-of-service ratemaking under the PRA employed both price and cost levers to deal with underwater products. That is, the requirement that rates cover attributable costs was addressed with a combination of real rate increases and multi-year cost reduction programs, such that expected revenues covered expected costs in a forecasted "test year."

Under PAEA, the class-level CPI cap system has distinct implications for underwater classes, and for underwater products within above-water classes.

In the case of an underwater class, the CPI cap effectively eliminates increases in real rates as a lever for bringing revenues and costs into balance, and places the burden of bringing products' revenues in line with costs almost exclusively onto cost reductions. Reducing product costs rapidly, particularly without adversely affecting service quality, is at the very least extremely

---

<sup>12</sup> This is not to say that rate increases are totally without risks. Even if a product's revenue fails to cover costs in aggregate, there may nevertheless be portions of the product's volume that may be profitable. A challenge is to structure prices, and rate increases, in ways that drive out high-cost rather than low-cost volume, other things equal.

challenging. Ultimately, if pre-existing service quality levels are costly to provide, and productivity improvements are insufficient to bring underwater classes to 100 percent cost coverage, pre-existing service quality levels may simply become financially unsustainable. For example, in the case of the Periodicals class, which has been underwater since the inception of the price cap system, the Postal Service has not been able to make significant headway on cost coverage despite considerable attention paid to the class by the Postal Service, the Commission, and Periodicals mailers.

For underwater products within classes that cover their costs as a whole, the CPI price caps in principle allow the use of above-CPI price increases to improve product cost coverage by way of within-class rate rebalancing. In light of the class-level price cap, however, it cannot be assumed that raising real rates on underwater products will improve the Postal Service's bottom line. The benefits of using pricing authority under the CPI caps to bring products above water in these cases are sensitive to a number of demand and cost variables, and particularly relative volume trends for products within classes. Since a real rate increase for the underwater product must be offset by a real rate decrease for at least some other products within the class, the total effect on contribution is ambiguous, but can be strongly negative under realistic conditions.<sup>13</sup> Assigning the cap space to a declining product tends to make matters worse, in that some revenue that the Postal Service would have expected to recognize for the declining product (in the absence of the volume loss) never is actually earned. The PAEA CPI cap system has no mechanism to recover the lost revenue due to autonomous volume declines, in whole or in part, from non- or less-declining products.

### **What PAEA Objectives Are Not Met by the Current Rate Regulation System?**

While the PAEA, as applied by the Commission, has so far been successful in its regulation of competitive products, it has not met the objectives in its regulation of market dominant products. We have identified three of the PAEA objectives related to price regulation that, for the reasons explained above, are not being met by the current system:

- Objective 4 – to allow the Postal Service pricing flexibility;
- Objective 5 – to assure adequate revenues, including retained earnings, to maintain financial stability; and
- Objective 8 – to establish and maintain a just and reasonable schedule for rates and classifications.

These failures are interrelated. For example, the current system's failure to provide "just and reasonable" compensatory rates has threatened the financial stability of the Postal Service. Limits on the pricing flexibility of market dominant products have, among other things, kept the

---

<sup>13</sup> The Postal Service has presented scenario analyses to illustrate this in the context of (unadopted) intervenor proposals under which the Commission would have ordered the Postal Service to rapidly increase the price of Marketing Mail Flats to eliminate that product's negative contribution while otherwise complying with the CPI cap for the Marketing Mail class. See Docket No ACR2012, library reference USPS-FY12-43.

Postal Service from eliminating the cross-subsidization of some products, in particular Periodicals.

## **REGULATORY SYSTEMS USED IN OTHER U.S. INDUSTRIES AND POSTAL SECTORS OF OTHER COUNTRIES**

Economic regulation of an industry is premised on the need to address some shortcoming of unregulated market outcomes. In the words of a seminal book on regulatory economics:

Regulation represents third-party intervention by a government agency as an arbitrator between the company and the customers it serves. Ideally, the regulators attempt to maximize the net benefits of efficiency, equity, and innovation by seeking fair profits (at a level attractive to the efficient rate of new investment into the utility) and ‘just and reasonable’ rates.<sup>14</sup>

Thus, the major purposes of economic regulation are to ensure: (1) the provision of the socially optimal quantity and quality of service, and (2) the establishment of rates that balance the needs of the regulated firm to cover its costs and earn an adequate return with the protection of consumers from unduly high or discriminatory rates.

Regarding price regulation, the various regulatory approaches fall into two general categories, *ex ante* and *ex post* regulation. Under *ex ante* regulation, the path of what prices will be over the defined regulatory period—i.e., the period until the next rate case or the period until review of the price cap—is generally established at the beginning of the regulatory period, either explicitly or through a formula. Under *ex post* regulation, rates are initially presumed to be just and reasonable and are reviewed, if at all, only after they have been in effect. Such reviews can occur through annual monitoring or be triggered by some type of complaint or request for investigation.

In this section, we review the experience of a number of regulated U.S. industries and foreign posts of various regulatory approaches to address these issues. As described below, current approaches to economic regulation rely on competitive markets as much as possible and/or the design of regulatory structures that emulate and recognize market-based incentives.<sup>15</sup>

### **Regulation of the U.S. Freight Railroad Industry**

The Staggers Act of 1980 began the turnaround for the financially precarious railroad industry and its path to stability and financial health. The Staggers Act largely deregulated the industry,

---

<sup>14</sup> James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Public Utility Reports, Arlington, VA, 1988, p. 6.

<sup>15</sup> It is worth noting that government enterprises such as the Tennessee Valley Authority and the National Passenger Rail Corporation (Amtrak) are not subject to regulatory oversight like the Postal Service. Consequently, our analysis of price regulation in the U.S. focuses on the private sector.

therefore giving it a high level of freedom in setting rates and services, providing railroads with the right to negotiate private contracts with shippers, and making it easier for railroads to abandon unprofitable rail lines. The Act made the financial health of the industry a major goal of rail policy.<sup>16</sup>

While most of the traffic carried by the railroads is considered to be competitive, the Staggers Act did provide a regulatory backstop for captive shippers, predicated on *ex post* regulation. That is, if a shipper has no competitive options (either another railroad or an alternative transportation mode) and revenues for the shipment are greater than 180 percent of the shipment's variable cost as determined by a regulatory cost model (the Uniform Rail Costing System, or URCS), the carrier is determined to have market dominance over the shipment. In that case, the shipper can seek to establish whether the rate it is being charged exceeds a reasonable maximum and obtain rate relief from the Surface Transportation Board (STB). The shipper has a few options to establish whether its rate exceeds a reasonable maximum, the most common and complex of which is called the Stand-Alone Cost (SAC) test. The SAC test seeks to determine whether the rate charged by the railroad for the shipment in question exceeds the stand alone cost of a hypothetical, most efficient railroad designed specifically for carrying that shipment. Because of the cost and complexity of performing the SAC test, in 2007 the STB created simplified approaches to determining maximum allowable rates for market-dominant shipments based on more readily-available STB metrics.<sup>17</sup>

Overall, the railroad regulatory model provides for market-based pricing, recognizing that providing railroads with revenue sufficiency requires that they be able to exercise market power by pricing rail services substantially above marginal costs, but providing *ex post* review to limit railroads from exercising market power unfairly.

The *ex post* approach to rail rate regulation is reflective of the emphasis on recognizing and promoting competition and minimizing regulation of the industry. In this regard, one of the fundamental regulatory changes embodied in the Staggers Act was that demand and competition were to be the principal regulators of the industry and that rate regulation was to continue only where there was an absence of effective competition.<sup>18</sup> In effect, *ex post* regulation was viewed residually as a backstop or safety net to competition.

---

<sup>16</sup> U.S. Postal Service Office of Inspector General, *Parallel Tracks? Lessons from the Railroad Industry*, RARC-WP-12-014, August 13, 2012, p. 3. Also see Christensen Associates, *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, November 2009, Chapter 20.

<sup>17</sup> For a description of the Board's oversight of rail rates, and its SAC and simplified procedures, see Christensen Associates, *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, November 2009, Chapter 20.

<sup>18</sup> Public Law 96-448, October 14, 1980.

## Regulation of the U.S. Telecommunications Industry

The U.S. telecommunications industry operates under dual regulatory jurisdictions: the Federal Communications Commission (FCC) has oversight of interstate services, and state regulatory commissions have oversight over intrastate services. Since the late 1980s and early 1990s, various forms of incentive regulation (e.g., price caps, rate freezes, earning sharing) have been adopted to regulate non-competitive segments of the industry. The industry was one of the first in the U.S. to adopt price cap regulation, with the FCC imposing price caps on AT&T long distance services in 1989. A year later, the FCC adopted price cap regulation for the large local exchange carriers (e.g., Bell Atlantic, Pacific Bell) for their interstate access services. Price cap regulation for intrastate services spread through the various state jurisdictions beginning in the mid-1990s and was used in thirty-eight states by 2002.

Regulators of this industry, which has largely transitioned to being a competitive industry, viewed incentive regulation as a way to mimic competitive forces and its associated benefits for both firms and consumers in those segments of the industry that were not competitive. Given the industry's record of strong growth in output, productivity, and profit, price cap regulation was seen as an effective means of encouraging firms to maintain that record while sharing the benefits with consumers.<sup>19</sup>

Standard price cap formulas have two basic components: a measure of inflation, and an adjustment to the inflation measure (the "X factor"). Together, these two components represent expected industry unit cost changes. If the firm's actual cost changes are less than the expected industry average given by the price cap formula, it will be rewarded with the additional profit generated by its lower-than-average cost changes, whereas under traditional cost-of-service regulation, such performance would be translated relatively quickly into lower rates. Thus, the firm has an incentive to operate more efficiently. Conversely, if the firm's actual cost changes are greater than the expected industry average, it will be penalized in the form of

---

<sup>19</sup> This perspective was clearly stated in the FCC's original Price Cap Order for AT&T:

[T]his Commission's efforts were devoted to structuring regulatory policies that affirmatively promote competition, that rely on competitive forces as an effective means of assisting us in achieving our statutory goals, or that attempt to emulate the operations of a competitive market. The public interest rationale for applying this competition-based regulatory model is readily understandable. Companies subject to competition are forced to operate in ways that generally result in just, reasonable, and non-discriminatory rates. Although firms operating in a competitive environment simply are attempting to maximize their profits, the various means each uses to achieve this result—innovating, enhancing efficiency, providing quality services—benefit consumers individually and society as a whole.

See Federal Communications Commission, *In the Matter of Policy and Rules Concerning Rates for Dominant Carriers, Report and Order and Second Further Notice of Proposed Rulemaking*, CC Docket 87-313, FCC 89-91, March 16, 1989, para 25.



less profits. Thus, again, the incentive would be to increase efficiency in order to improve profits.

Because of uncertainty over what the X factor should be for the local exchange carrier industry and the variability in performance of the individual firms comprising the industry, the FCC's original price cap plan for the local exchange carriers also included an earnings sharing mechanism (ESM) as a "regulatory backstop" or "automatic stabilizer." The ESM adopted by the FCC was symmetric in that earnings could deviate within a range of plus or minus 200 basis points relative to the authorized rate of return before a decrease in rates (if earnings exceeded the upper band) or an increase in rates (if earnings were below the lower band) was triggered. The FCC recognized that, while the use of an ESM would dampen economic incentives for efficiency, there was enough uncertainty regarding determination of the X factor for local exchange carriers to warrant the protection provided by an ESM. Eventually, the FCC decided that it had greater confidence in adopting an X factor and dropped the ESM from its local exchange carrier price cap plan.<sup>20</sup>

Other key features of the FCC price cap plans for AT&T and the local exchange carriers included the following:

- Periodic reviews (initially, during the fourth year of the plan) were established to examine plan performance and to make adjustments to the plan.<sup>21</sup>
- "Z factors" were included in the formula to account for exogenous costs that were outside the control of the regulated firm's management. The FCC defined exogenous costs as "costs which change due to changes in laws, regulations, or rules, or due to other administrative, legislative, or judicial changes beyond a carrier's control."<sup>22</sup>
- Carriers were allowed to file above-cap rates. However, such rates were suspended for up to five months and approval was based on a stringent cost showing to determine that the costs driving the proposed rates were prudently incurred and the rates were just and reasonable. The stringent approval process reflected the view that such above-cap filings would be extremely rare.<sup>23</sup>

### **Regulation of the U.S. Electric Utility Industry**

The electric utility industry has a vertical structure of generation, transmission, and distribution. Generation relies on a variety of fuel sources (coal, natural gas, wind, etc.) to supply electric energy. Transmission takes the generated electricity from its source to the local electricity distribution networks, while the distribution network provides that electricity to the customer.

---

<sup>20</sup> See Ross C. Hemphill, Mark E. Meitzen, and Philip E. Schoech, "Incentive Regulation in Network Industries: Experience and Prospects in the U.S. Telecommunications, Electricity, and Natural Gas Industries," *Review of Network Economics*, Vol. 2, Issue 4, December 2003, p. 320.

<sup>21</sup> CC Docket 87-313, FCC 89-91, March 16, 1989, paras 557-562.

<sup>22</sup> CC Docket 87-313, FCC 89-91, March 16, 1989, para 253.

<sup>23</sup> CC Docket 87-313, FCC 89-91, March 16, 1989, paras 479-491.

Generation is generally viewed as being potentially open to competition, while transmission and distribution operations are generally viewed as being natural monopolies. Most electric utilities are vertically integrated, meaning that they include generation, transmission, and distribution functions. In many instances, the utility will provide the generation, transmission, and distribution services underlying the supply of electricity to its customers, and it is said to be providing a bundled service. However, there are also numerous companies competing in the market for electricity generation. In those instances where a competitor is providing the generation service, with the utility responsible to providing the transmission and distribution service, the utility is said to be providing delivery service. Rate regulation of electric utilities is done for both bundled services and delivery services.

Most electric utilities are primarily regulated by some form of cost-of-service regulation, although there may be some modifications designed to improve efficiency incentives in some way. This includes the application of earnings sharing in an otherwise cost-of-service regime. As noted below, relatively few electric utilities are or have been subject to price cap regulation, or variants such as revenue cap regulation. Most alternative regulation efforts in the electric utility industry have been directed at making sure that the utility is adequately compensated for prudently incurred costs, particularly in the face of declining volumes. These efforts include: “revenue decoupling” where rates are set to recover a target level of revenue, independent of energy use (to account for the fact that conservation efforts have a greater impact on revenue than costs); “cost trackers” that provides an expedited process outside of a rate case setting for adjusting rates for changes in specific costs, such as specific capital projects; and “formula rate plans” that automatically adjust rates (again, outside of a rate case setting) for deviations of net income from its target.

Unlike the telecommunications industry, there have been very few instances where price cap regulation has been implemented in the electric utility industry. As of November 2015, there was only one U.S. electric utility being regulated by a price cap index: PacificCorp in California. That price cap was initially implemented for the period 2011-2013, but was extended through 2016. The price cap formula is  $CPI - 0.5\%$ , but it has the interesting feature that supplemental funding for major plant additions can be requested on an annual basis.<sup>24</sup> There appears to have been greater interest in price caps during the 1990’s and the early part of this century, but those price caps expired and were not renewed. Even then, the interest in price caps was centered in California and some of the New England and North Atlantic states. These price caps were generally three to five years in duration, with cost-based rate rebalancing being done at the end of each price cap period.<sup>25</sup>

---

<sup>24</sup> Pacific Economics Group Research LLC, *Alternative Regulation for Emerging Utility Challenges: 2015 Update*, prepared for the Edison Electric Institute, November 2015, p. 37.

<sup>25</sup> Pacific Economics Group Research LLC, *Alternative Regulation for Emerging Utility Challenges: 2015 Update*, prepared for the Edison Electric Institute, November 2015, pp. 40-43.

One problem associated with price caps is that they did not provide utilities with incentives to encourage energy conservation through demand side management programs. The costs of the electricity distribution network are primarily driven by the capacity of the network (which is highly correlated with the number of customers being served) rather than the amount of electricity being delivered during the year. While most utilities impose customer charges to cover network costs, these costs are partly recovered through electricity usage prices (per kilowatt-hour of energy) that are generally above the marginal costs of the electric energy being provided. Consequently, reductions in electricity use through demand side management programs have a greater impact on utility revenues than utility costs, and lead to reductions in utility net income, all else equal.

One variant of price cap regulation that has been employed in attempt to address declining electricity demand is the revenue cap, which limits the increase in utility revenues by a formula. As of November 2015, ten utilities in California, Florida, Georgia, Iowa, New Hampshire, and New York were regulated under revenue caps. Interestingly, only two of these revenue caps are tied to an index, such as a CPI. The other caps are “stairstep” caps, where specific increases in revenues are specified at the beginning of the revenue cap period. Of these ten caps, three are three years in duration, four are four years in duration, one is five years in duration, and two are six years in duration.<sup>26</sup> Given the large number of electric utilities in the United States, price cap and revenue cap plans represent a very small percentage of the electric utility regulatory regimes in this country.

One reason why price caps and revenue caps have not been implemented on a widespread basis is that electric utility plant and equipment investment tends to be quite lumpy and significant, particularly for generation but also for distribution projects that replace aging infrastructure or are needed for safety reasons. These generally require more funding than what can be provided through a price cap or revenue cap. One alternative that has been employed on a limited basis is to partially base rates on a cost of service analysis for plant and equipment and indexing operating and maintenance expenses. Another approach, used in Canada, is to use “K factors” in the price cap formula to supplement revenues achievable under a price cap. A K factor or capital tracker is designed for circumstances where necessary capital expenditures cannot be reasonably expected to be recovered through rates established by the price cap formula.<sup>27</sup>

### **Regulation of U.S. Oil Pipelines**

Oil pipelines are regulated by the Federal Energy Regulatory Commission (FERC). The primary method of rate regulation for pipelines, adopted in the mid-1990s after the passage of the Energy Policy Act of 1992, is an indexing procedure to cap rates. This Act required FERC to

---

<sup>26</sup> Pacific Economics Group Research LLC, *Alternative Regulation for Emerging Utility Challenges: 2015 Update*, prepared for the Edison Electric Institute, November 2015, pp. 37-38.

<sup>27</sup> For example, see Alberta Utilities Commission Decision 2012-237, p. 124.

establish a “simplified and generally applicable” rate methodology for oil pipelines, that was subsequently developed in the FERC Order No. 561 proceedings. The cap is based on the percentage change Producer Price Index for Finished Goods (PPI-FG) and is adjusted by the difference over the previous five years between pipeline industry unit costs and the PPI-FG. As described in Order 561, this PPI-based index (originally set at PPI-FG – 1 and to be reviewed every five years) was the closest of all indexes considered to tracking the historical changes in the actual costs of the pipeline industry.<sup>28</sup> In concept, this is similar to basing the cap on unit cost differences between the overall economy and the regulated industry as was typically done in telecommunications price caps.

The cap is reviewed every five years, at which time the cost difference component is adjusted for the next five-year period. The cost adjustment is based on the “Kahn Methodology,” which was developed by Alfred Kahn during the initial Order 561 proceedings.<sup>29</sup> The cost adjustment can be positive or negative, depending on the relationship between pipeline costs and the PPI-FG. Initially, the cap was set at PPI-FG – 1 for the 1995-2000 period. Currently, the index for the 2016-2021 period is PPI-FG + 1.23%.<sup>30</sup>

In addition to the primary PPI-FG rate cap methodology, three other rate methodologies are available as described in 18 CFR §342.4:

- Market based rates—available for services if there is adequate competition in both origin and destination markets (i.e., the pipeline lacks significant market power). The pipeline must define relevant geographic and product markets at both origin and destination, identify competitive alternatives and compute market concentration, and avoid cross-subsidization.
- Cost-of-service rates—if it can be shown that there is a substantial divergence between actual costs experienced by the carrier and the rate resulting from application of the index, such that the rate at the ceiling level would preclude carrier from being able to charge a just and reasonable rate, the pipeline can raise rates to a compensatory level.
- Settlement rates—the carrier may charge a rate without regard to the ceiling if the proposed change has been agreed to by each person who, on the day of the filing of the proposed rate change, is using the service covered by the rate.

### **Rate Regulation of Other Posts**

We review three European nations—United Kingdom, Germany, and France—because they are the highest-volume posts in Europe and have, or have had, some form of price cap regulation. Rate regulation in each of the European countries is informed by the European Commission’s

---

<sup>28</sup> FERC Order No. 561, October 22, 1993, para 951.

<sup>29</sup> A description of this methodology can be found in FERC Docket No. RM10-25-000, December 16, 2010, paras 5-9.

<sup>30</sup> Federal Energy Regulatory Commission, “FERC Establishes New Five-Year Oil Pipeline Index Level,” December 17, 2015.

Postal Services Directive. That directive requires that the rates for universal service be cost-oriented, transparent, non-discriminatory, affordable, and set at a level that ensures the permanent financial stability of the universal service. In addition, we review Canada and Australia because, like the U.S. Postal Service, they are government enterprises with a statutory monopoly.

### *Royal Mail*

Royal Mail is the only universal service provider in the United Kingdom. Royal Mail was privatized by the UK government between 2013 and 2015. Royal Mail Group is made up of the UK Parcels, International, and Letters (UKPIL) business (which accounts for approximately 82% of Royal Mail Group's revenue) and General Logistics Division business (a ground-based deferred parcel delivery operation which accounts for almost all of the remaining Royal Mail Group revenue). Forty-two percent of UKPIL's revenue comes from parcel delivery, 15% comes from marketing mail, and 43% comes from letters and other mail.<sup>31</sup>

The regulation of Royal Mail has changed significantly over the past sixteen years and eventually changed from an *ex ante* approach to effectively *ex post* regulatory oversight in 2012. Initially, the Postal Services Act of 2000 established the Postal Services Commission (Postcomm) as Royal Mail's regulator, with authority to license postal operators and to determine the extent of services covered by Royal Mail's reserved area. The regulated universal services included single-piece, presort, downstream access, and parcel products. Products were divided into monopoly and non-monopoly product baskets, with each basket subject to its own price cap. Rates were subject to adjustment at the onset of each price cap period.<sup>32</sup>

Royal Mail's RPI - X formula<sup>33</sup> was effectively a revenue cap approach with each basket having its own X factor value. The X factor was derived based on what is commonly called the "British style" of incentive regulation. Postcomm would project a level of efficiently incurred costs for each basket and set the X factor at a value that presumably would allow Royal Mail to recover those costs. Within each basket there were secondary limits on how much "rebalancing" of rates could be undertaken.<sup>34</sup> There were a number of adjustment factors to the basic RPI - X formula, some of which were part of the original formula and others that were added subsequent to the initial plan period that increased the complexity of the formula. The formula also included: a "C factor" that tied allowed rate increases to measured service performance; a "K factor" that would roll under- or over-recovery of revenue during the current plan period

---

<sup>31</sup> *Royal Mail plc Annual Report and Financial Statements*, 2015-2016, pp. 4, 22.

<sup>32</sup> See Postcomm, *Amended Licence Granted to Royal Mail Group PLC*, May 25, 2006.

<sup>33</sup> RPI stands for the Retail Price Index, which represent the prices of a representative sample of retail products. In recent years, it has been deemphasized by the UK Office for National Statistics in favor of the Consumer Price Index.

<sup>34</sup> See Postcomm, *Amended Licence Granted to Royal Mail Group PLC*, May 25, 2006. This is similar to the pricing bands that were adopted by the FCC.

into the next generation of the plan; a “PP factor” for pension deficit pass-through; and a “G factor” that adjusted for volume growth or decline.<sup>35</sup> It is apparent that the basic RPI - X formula was insufficient to address the complexity of Royal Mail’s circumstances.

However, even after these adjustments were made, the outlook for maintaining universal service became problematic, leading to the British government commissioning two studies by the Hooper Commission.<sup>36</sup> Based on the recommendations from these reports, the Postal Services Act of 2011 made significant changes to the way Royal Mail was regulated and operated. First, the Postal Services Act led to Royal Mail being privatized with shares publicly traded. The government began the sale of Royal Mail stock in 2013; by October 2015, all Royal Mail shares were sold to the public, and Royal Mail became a private corporation.<sup>37</sup>

Second, the regulation of Royal Mail was shifted from Postcomm to Ofcom, the communications regulator, with the regulatory focus to be on the efficient and financially sustainable provision of universal service. Based on its new authority, Ofcom issued a final decision in 2012 that made significant changes to the way that Royal Mail’s rates are regulated.<sup>38</sup> One important change is that only a relatively small amount of Royal Mail revenue is directly affected by a “safeguard cap.” This rate ceiling only includes Second Class letters, Large Letters, and Packets. Rates for the remaining universal service products are not subject to the safeguard cap. Ofcom set the safeguard cap at a level 53% above 2012 rates for these products and allowed the cap to increase at the growth in CPI in subsequent years. Royal Mail has not priced to this ceiling; rates for the mail subject to this ceiling have remained below the safeguard cap, some substantially so.

Ofcom monitors Royal Mail’s financial performance, retains the prospect of re-regulation in the event that Royal Mail is making either excessive or insufficient profits or is not making reasonable efficiency improvements, and may hear complaints on excessively high rates. Ofcom also stated its intention to monitor Royal Mail’s operations more closely, in order to determine that the universal services are being provided efficiently and sustainably.

Although Royal Mail has faced competition in the provision of end-to-end services, its largest competitor, Whistl, exited the market in June 2015. In July 2015, Ofcom issued a discussion paper questioning whether the regulatory structure for Royal Mail should be modified as a result of Whistl’s exit and other developments in Royal Mail’s business. In May 2016, Ofcom

---

<sup>35</sup> See Postcomm, *Amended Licence Granted to Royal Mail Group PLC*, May 25, 2006.

<sup>36</sup> Richard Hooper CBE, Dame Deirdre Hutton, and Ian R. Smith, “Modernise or Decline: Policies to Maintain the Universal Postal Service in the United Kingdom,” December 16, 2008; and Richard Hooper CBE, “Saving the Royal Mail’s Universal Postal Service in the Digital Age: An Update of the 2008 Independent Review of the Postal Services Sector,” September 2010.

<sup>37</sup> “Public Ownership of Royal Mail Draws to a Close with Share Sale,” *Financial Times*, October 13, 2015, (<http://www.ft.com/cms/s/0/3f0b24b4-7175-11e5-ad6d-f4ed76f0900a.html#axzz40v1Qu417>).

<sup>38</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012.

concluded that the current regulatory framework was operating appropriately and that a major overhaul was not necessary. Ofcom further proposed that the current *ex post* framework remain in place for a further five years after completion of the review.<sup>39</sup> This conclusion and extension of the plan was affirmed in Ofcom's March 2017 final decision.<sup>40</sup>

Details of the current *ex post* regulation of Royal Mail are found in the Appendix.

### *Deutsche Post*

Deutsche Post is a highly diversified company involved in postal services, e-commerce, parcel delivery, express, global forwarding, and supply chain services. It is the only universal service provider in Germany. Postal revenues accounted for approximately 16% of Deutsche Post total revenue in 2015.<sup>41</sup> Deutsche Post is also a publicly traded company, with 20.9% of its shares held by the German government-owned development bank KfW Bankgruppe, 67.8% held by institutional investors, and 11.3% were owned by private investors in 2015.<sup>42</sup> In summary, the operating structure of Deutsche Post and its ownership structure differs significantly from that of the Postal Service.

The prices for Deutsche Post's universal services are subject to price caps of the form CPI-X. Universal services are defined to be items up to 1 kg that are tendered in mailings of less than fifty pieces.<sup>43</sup> The X factor consists of two components: a mechanism to rebalance prices and Deutsche Post's efficient unit costs for the regulated services, and an adjustment for projected economy-wide TFP growth. For purposes of the rebalancing mechanism, efficient unit costs include efficiently incurred product costs, a reasonable rate of return on those costs, and an appropriate share of "neutral expenses" (i.e., costs of the universal service obligation and other legal mandates). The projection of efficient unit costs is also dependent upon mail volume forecasts. The projected price increases resulting from the overall CPI-X formula are then benchmarked for "plausibility" against average annual letter price increases among other European postal operators.<sup>44</sup>

Up until November of 2015, the regulator (Bundesnetzagentur or BNetzA) set a positive X factor, which meant that rates could increase only at a rate below the CPI. In 2004, the X factor

---

<sup>39</sup> Ofcom, *Review of the Regulation of Royal Mail*, May 25, 2016.

<sup>40</sup> See Ofcom, *Review of the Regulation of Royal Mail*, March 1, 2017.

<sup>41</sup> Deutsche Post 2015 Annual Report, p. 62

<sup>42</sup> Deutsche Post 2015 Annual Report, p. 71.

<sup>43</sup> Bundesnetzagentur, "The Price Cap Regime from 2012: Benchmark Procedure – Key Elements," July 15, 2011, p. 3. Were this standard applied to the U.S. Postal Service, all presorted mail (that is, Presorted First-Class Mail, all Marketing Mail, and presorted Package Services Mail) and many Periodicals price categories would be exempt from its price cap.

<sup>44</sup> For technical details concerning the price cap, see U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 47.

was set at 1.8 and was reduced though time until it was set at 0.2 in 2014.<sup>45</sup> However, significant mail volume declines threatened Deutsche Post's ability to provide universal services sustainably under this price cap, particularly as the rate-of-return factor did not reflect the relative labor-intensiveness or profitability of postal services.<sup>46</sup> Following a change in governing law, BNetzA instituted a price cap in November 2015 that would allow rates to increase more rapidly than the CPI, meaning the X factor is now negative. This price cap is in effect for the years 2016 through 2018 and allows rates to increase a total of 5.8% more than the increase in the CPI over that three-year period.<sup>47</sup> Although the cumulative 5.8% increase translates into an annual rate of 1.9% over the period, BNetzA also allowed Deutsche Post to take full advantage of the 5.8% in the first year of the period. Thus, the formula is more generous to Deutsche Post than a CPI + 1.9% formula over the three-year period would be.

### *La Poste*

La Poste is the universal service provider in France. It is wholly owned by public shareholders. The French government owned about 74% of the company in 2015, with Caisse des Dépôts et Consignations (a French public financial institution) owning the remainder of the company. Since it is a public limited company, it is able to raise capital for its investment plans. Approximately 48% of La Poste's revenues come from traditional mail services, 24% from domestic and international express parcels, 25% from banking services, and the remainder from retail and digital services.<sup>48</sup>

The scope of universal service for La Poste is broader than Deutsche Post's. It includes single piece and bulk correspondence, periodicals, and catalogs up to 2 kg; and single piece parcels to residential addresses up to 20 kg.<sup>49</sup> Although the price cap is a CPI - X formula, the derivation of the X factor for La Poste differs significantly from that used to derive the Deutsche Post formula. The X factor incorporates the expected rates of change in CPI, revenue-weighted mail volumes for the regulated services, and efficiently-incurred costs, all adjusted for the price elasticity of the regulated services.<sup>50</sup>

---

<sup>45</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 47.

<sup>46</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 49; *Verordnungsentwurf der Bundesregierung: Erste Verordnung zur Änderung der Post-Entgeltregulierungsverordnung (Justification Statement for Proposed First Ordinance to Amend the Postal Rate Regulation Ordinance)*; April 30, 2015, pp. 1, 4, 6.

<sup>47</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, pp. 47, 49.

<sup>48</sup> Le Group La Poste Registration Documentation 2015, p. 12.

<sup>49</sup> Code des Postes et des Communications Électroniques (Postal and Electronic Communications Code), article R1.

<sup>50</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, pp. 37-38.



The La Poste price cap also allows for mid-term, partial adjustments of the X factor if there is a sufficiently large deviation in either the CPI or mail volumes from their respective forecasts.<sup>51</sup> The partial nature of these adjustments effectively shares forecasting risk between La Poste and consumers. In theory, these adjustment factors allow for adjustments to the price cap when significant events occur without undergoing a wholesale reopening of the price cap formula. In practice, however, the adjustment factors do not appear to have been invoked; instead, unexpectedly large volume declines led the regulator, Autorité de Régulation des Communications Électroniques et des Postes (ARCEP) to reopen the price cap formula in 2014.<sup>52</sup>

In recent years, the price cap formula has allowed La Poste to increase rates more rapidly than the CPI. Between 2009 and 2011, the X factor allowed rates to increase 0.3 percentage point more than the CPI increase each year. In November 2012, a new three-year price control period was established (2013-2015) where rates were allowed to increase 1.0 percentage point more than the annual CPI increase. As mentioned above, however, unexpectedly large mail volume declines led to a re-evaluation of the X factor in 2014, and ARCEP set a new X factor for the four-year period of 2015 through 2018. The new X factor allows rates to increase, on average, 3.5 percentage points above the CPI increase each year. Furthermore, the new price cap allows La Poste to front-load some of the rate increases being allowed during this four-year period, allowing La Poste to generate more revenue.<sup>53</sup>

### Canada

Canada Post is a government-owned corporation. Unlike posts in the European Union, but like the Postal Service, Canada Post has a legal monopoly over certain types of mail, including single-piece and bulk letter mail. The Canada Post Corporation Act requires Canada Post to establish fair and reasonable rates and to offer its services efficiently. Certain postage rates must be published in the *Canada Gazette* and sent to the Governor in Council for consideration. There is currently no regulatory oversight body like the Postal Regulatory Commission.<sup>54</sup>

At one time, a price cap limited the basic letter mail rate, but by 2010 that price cap was eliminated. As has been the case for the European posts, CPC has had to increase rates substantially in recent years, to maintain financial health. Between 2000 and October of 2009, the rate for basic letter mail less than 30g could increase at rate equal to two-thirds of the

---

<sup>51</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 38.

<sup>52</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 36.

<sup>53</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, pp. 37-39.

<sup>54</sup> Canada Post Corporation Act, art. 19(1); and U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 27.

increase in the Consumer Price Index. Rates for other postal services were not tied to this formula and could increase more rapidly.<sup>55</sup> In 2008, a CPC Strategic Review panel concluded that additional revenue would be needed to fund CPC operations, and in January of 2009, an additional one-cent increase was allowed as a temporary one-time measure to address costs pressures that could not be addressed through the CPI-based formula.<sup>56</sup> Furthermore, in October 2009, the CPI-based price cap was scrapped entirely, and basic letter mail rates for the following five years were directly set by regulation. Those allowed rate increases were substantially above the rate of inflation, as the basic letter mail rate increased 20.4% between January of 2010 and February of 2014, while the CPI only increased 7.4%.<sup>57</sup>

In March of 2014, the CPC introduced a tiered pricing structure. For stamps purchased in booklets, coils, or panes, the basic rate increased 31%, from CAD 0.65 to CAD 0.85. Individual stamps cost CAD 1.00 per stamp. This substantial increase in the basic rate substantially improved the CPC financial position, as the CPC's 2014 Annual Report announced that domestic mail revenue increased 7.9% even though volume decreased 5.4%, and CPC reported a profit for that year.

Overall, since the discontinuation of the CPI-based price cap, basic postage rates increased 63.5% (if stamps were not purchased singly) while the CPI increased 12.5%.<sup>58</sup>

### *Australia*

Like Canada Post, Australia Post is a government-owned corporation and is not subject to price cap regulation. The Australia Post Board of Directors is responsible for setting rates that are just and reasonable for its products. The products and services provided by Australia Post can be categorized as reserved letters, non-reserved letters, other postal services, and parcels. Rates for reserved letters are regulated by the Minister for Communications (the Minister) and the Australian Competition and Consumer Commission (ACCC).

Per the Australian Postal Corporation Act of 1989, the Minister has 30 days after receiving notice of a rate increase from Australia Post to give notice of disapproval of that rate increase.<sup>59</sup> If no notice of disapproval is given, then the rate increase goes into effect. In exercising this

---

<sup>55</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 28.

<sup>56</sup> *Strategic Review of the Canada Post Corporation*, Report of the Advisory Panel to the Minister, December 2008, p. xi.

<sup>57</sup> The percentage increase in rates is based on the authorized basic rate of CAD 0.65 for 2014. However, Canada Post did allow mailers to continue to send mail at the prior rate of CAD 0.63 for a limited time during early 2014.

<sup>58</sup> Postage rates increased from CAD 0.52 to CAD 0.85. For the change in the Consumer Price Index, see Statistics Canada, Table 326-0021, Consumer Price Index, annual (2002=100), (<http://www5.statcan.gc.ca/cansim/a26?id=3260021&retrLang=eng&lang=eng>, accessed Feb. 1, 2017).

<sup>59</sup> Australian Postal Corporation Act of 1989, Section 33.

power, the Minister must take into account Australia Post's obligations under the Act, changes in the Consumer Price Index, and any other matters that the minister may deem appropriate.

Under Section VIIA of the Competition and Consumer Act of 2010, the ACCC has different forms of regulatory oversight of "ordinary letters" and bulk mail services. For ordinary letters up to 250g, Australia Post must notify the ACCC if Australia Post increases the price of a product, if it introduces a new product within the scope of ordinary letters, or if it provides an existing service under terms and conditions that differ from the terms or conditions of that service for other customers. For price increases, the ACCC must assess the proposal and decide to either (1) not object to the price increase, (2) not object to a price increase less than the one proposed, or (3) object to the price increase.<sup>60</sup> The ACCC describes its approach to assessing rate proposals as cost-based, and evaluates whether the proposed price increases are expected to recover the cost of efficiently providing those services.<sup>61</sup> For bulk mail services, the ACCC may inquire into disputes about the terms and conditions, including price and access. This is to ensure that persons who use bulk mail services receive fair and reasonable terms and conditions in relation to the supply of those services.<sup>62</sup>

To better understand the regulatory process for ordinary letters, it is helpful to review Australia Post's application for a rate increase in 2015, when Australia Post requested and received a substantial rate increase and a substantial change in its delivery standards. Up through 2014 Australia Post rates had generally kept track with inflation, but substantial declines in mail volume led to increasingly large losses on reserved letter service. Between 2011 and 2015, reserved letter volumes decreased 5.8% per year on average.<sup>63</sup> For the fiscal year 2014-2015, the loss was \$283 million on reserved letter service revenue of \$1,737 million.<sup>64</sup> Australia Post noted that these financial losses were due to declining letter mail volume, combined with the substantial fixed costs associated with the Australia Post network.<sup>65</sup> Consequently, Australia Post applied for a 43 percent increase in the ordinary letter rate. Furthermore, Australia Post applied for a reduction in service standards that would add two business days to the delivery time for most letters.<sup>66</sup> Australia Post argued that the reduced service standards were

---

<sup>60</sup> ACCC Decision on Australian Postal Corporation 2015 Price Notification, p. 5.

<sup>61</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 20.

<sup>62</sup> Australian Postal Corporation Act of 1989, Section 32B.

<sup>63</sup> U.S. Postal Service Office of Inspector General, *Lessons in Price Regulation from International Posts*, RARC-WP-17-003, February 8, 2017, p. 22.

<sup>64</sup> ACCC Decision on Australian Postal Corporation 2015 Price Notification, p. 10 and Attachment B.

<sup>65</sup> ACCC Decision on Australian Postal Corporation 2015 Price Notification, Attachment B.

<sup>66</sup> Letters being sent between states would have three business days added to their delivery standard. At the same time, Australia Post would introduce a priority service that would maintain the old service standards for a higher price.

necessary to maintain the operational flexibility needed to efficiently handle the reduced mail volumes.<sup>67</sup>

The ACCC conducted a consultative process, which began with Australia Post issuing a draft notification on August 28<sup>th</sup>. The consultative process continued through November 27<sup>th</sup>, when the ACCC published its view of the draft notification, and on November 30<sup>th</sup>, Australia Post submitted its formal notification of the price increase and change in service standards. In December, the ACCC accepted both the price increase of 43% and the change in service standards. With the ACCC decision, the notice was forwarded to the Minister of Communications, who also accepted it, and the rate increase was implemented on January 4, 2016.<sup>68</sup> In fact, Australia Post earned a modest profit in 2015/2016.<sup>69</sup> Despite the size of the Australia Post rate increase and the substantial change in delivery standards, the entire regulatory process took less than five months from the time that the draft notification was submitted to the time that the rate increase went into effect.

## **Summary of Regulatory Review and Key Lessons for Postal Regulation**

### *Other U.S. Industries*

Like the Postal Service, the railroad industry found itself in a long period of decline, with competitive transportation modes taking away significant volumes from the railroads and the industry finding itself in dire financial straits due in part to highly restrictive regulation. The Staggers Act of 1980 explicitly recognized the financial health of the industry as a primary regulatory goal and allowed railroads substantial freedom in both pricing and service provision. The approach to regulating the industry is to rely on competition as much as possible and to rely on *ex post* price regulation (rather than *ex ante* controls) for the segment of the industry that is considered captive and where it can be demonstrated that the railroad charges excessive rates. One of the key findings from a U.S. Postal Service Office of Inspector General (OIG) whitepaper comparing the experiences of the railroad industry and the Postal Service is instructive when considering regulatory reform for the Postal Service. Specifically, “[t]here were three critical, interrelated components that allowed freight rail to be financially viable: 1) productivity improvement, 2) revenue generation, and 3) cost containment.” Furthermore, and most importantly, “[n]one of the three would have been successful in isolation.”<sup>70</sup>

The telecommunications industry is one of the only regulated sectors in the United States where price caps have been extensively used. However, the structure and performance of the industry as well as the general structure of the price cap plans in the industry differs

---

<sup>67</sup> ACCC Decision on Australian Postal Corporation 2015 Price Notification, p. 9.

<sup>68</sup> ACCC Decision on Australian Postal Corporation 2015 Price Notification, p. 14, and Australia Post Annual Report 2016, p.7.

<sup>69</sup> Australia Post Annual Report 2016, p.7.

<sup>70</sup> U.S. Postal Service Office of Inspector General, *Parallel Tracks? Lessons from the Railroad Industry*, RARC-WP-12-014, August 13, 2012, pp. i-ii.

significantly from Postal Service experience with price cap regulation. Regarding the structure and performance of the industry, telecommunications is a technologically-advanced, capital intensive industry that has experienced high output and profit growth. The price cap plans implemented in the industry generally worked well largely because of the continued growth in the industry. The plans were also of relatively short duration (e.g., 4 to 5 years) to permit frequent review and make any necessary adjustments to the plans—for example, to update estimates of expected industry unit costs. In addition, although ESMs blunt efficiency incentives, many plans (at least initially) employed ESMs to protect both firms and consumers because of uncertainty over industry unit cost trends. Unlike telecommunications industry performance, the significant and largely unforeseen volume losses of the Postal Service plagued its CPI cap regulation from the outset.

Most electric utilities are subject to some form of cost of service regulation, although there may be minor modifications of cost of service regulation designed to modestly improve the incentives for efficiency. Relatively few electric utilities are subject to price cap regulation, or even variants of price cap regulation such as revenue cap regulation. The greatest parallel between the electric utility industry and the Postal Service is the declining volumes experienced in both cases. Where incentive regulation has been used in the industry, revenue caps have been seen as a way to deal with volume declines for electric utilities. However, a critical difference between the electric utility industry and the Postal Service is that the electric utility industry typically uses fixed customer charges to recover a significant portion of its network costs.

The oil pipeline industry has had an indexing approach to rate regulation since the mid-1990s, which is based on the difference in unit costs between the industry and the overall economy (i.e., the “unit cost differential”). Regarding lessons for the Postal Service, if a cap were to be continued for the Postal Service, there are three features of the pipeline cap that should be kept in mind. First, periodic review of the cap at five-year intervals is important to recalibrate the cap to expected industry unit cost trends. Second, it is critical that any cap system reflects the expected cost trends of the entities being regulated. Finally, if it can be demonstrated through that rates allowed under the index would not allow a carrier to charge just and reasonable rates, above-cap rates are allowed.

An overarching lesson from these U.S. industries is that they have attempted, to the degree possible, to emulate competitive processes in the establishment of just and reasonable rates—that is, subject to the requirement that both regulated firm and consumer interests are considered, ensuring that the regulated entity is capable of maintaining its financial integrity, while operating efficiently and without generating excess profits. Some have done this through the imposition of some type of cap on rates while others, notably the railroad industry, have relied on a more flexible approach that relies on an *ex post* complaint and review process to regulate market-dominant rates. In this regard, the adoption and success of a particular form of regulation is critically dependent on the features of the regulatory approach appropriately

matching industry characteristics. It is also prudent to allow adjustments to mechanisms, periodic plan review, and/or exit contingencies as there will likely exist an element of uncertainty and a learning curve when a plan is adopted.

#### *Other Posts*

Price cap regulation has been used for posts in the European Union. In some cases, the posts have been privatized, while in others they are still government enterprises. Currently, Germany and France use price cap regulation, while this form of regulation was abandoned in the United Kingdom in 2012 in favor of an *ex post* approach to rate regulation. There are some common features of the German, French, and former UK price cap plans in contrast to the PAEA's price cap. First, each price cap period is of relatively short duration (typically three years). Second, these price caps acknowledge that lost mail volume can have a significant impact on postal finances. Unanticipated mail volume losses can be addressed by either an adjustment factor that applies to the price cap formula or a mechanism to reevaluate the price cap. The adjustment mechanisms used, including any forecasts, tend to be complex and would appear to be subject to controversy in their implementation. Third, all three European regulators have acknowledged that the lost mail volumes necessitate rate increases significantly above the rate of general inflation (the CPI).

The United Kingdom has achieved pricing flexibility and responsiveness to market conditions through its *ex post* approach, which relies on monitoring of Royal Mail's behavior, and is predicated on Ofcom's view that Royal Mail has inherent incentives not to price excessively or operate inefficiently. This third trend is likewise attested in Canada and Australia, both of which have legal monopolies over letter mail, yet significantly less regulatory oversight than either the European posts or the U.S. Postal Service. As with the other posts surveyed, both Canada and Australia also suffered volume losses that led to substantial impacts on finances and significant increases in rates to address the financial impacts.

#### **ALTERNATIVE FORMS OF REGULATION FOR THE POSTAL SERVICE**

In evaluating the alternative forms of regulation, we will refer back to the nine objectives listed above, the reasons for which we believe the current CPI cap did not work, and the findings of our analysis of other industries and posts. First, in order to maintain high quality service standards and to enhance mail security and deter terrorism, any form of regulation must assure adequate revenue to provide the Postal Service with financial stability. To the extent that other factors play an important role in determining whether the Postal Service meets those objectives, the PAEA gives substantial regulatory power to the Commission in order to monitor Postal Service performance. Consequently, our analysis will focus on incentives to reduce cost and increase efficiency, predictability and stability of rates, pricing flexibility, providing sufficient financial resources, reducing the administrative burden and increasing the transparency of the ratemaking process, establishing just and reasonable rates, and allocating costs between the market-dominant and competitive product baskets.

In determining whether rates are predictable and stable under an alternative regulation plan, it is important to recognize that these terms do not necessarily imply that rates only increase with the CPI. Rather, the terms predictable and stable can mean that rates are logically related to Postal Service costs and services, and that Postal Service customers have information concerning the path of future rates in order to make forward plans of their own for the forecast period. It is also important to note that the CPI is nothing more than a measure of overall inflation in the economy at the consumer level; it does not have a fixed relationship to Postal Service costs or input prices. Some products and services sold in the economy have prices that increase more rapidly than CPI, while other products have prices that increase less rapidly. For example, while the CPI increased at an average annual rate of 1.6% between 2010 and 2016, the price of air mail and package delivery increased at an average annual rate of 4.4% and the price of courier and messenger services except air increased at an average annual rate of 5.5%.<sup>71</sup>

In addressing the issue of just and reasonable rates, there are a number of policy concerns that ultimately determine whether rates are just and reasonable. From an economic perspective, we focus on the primary issue of whether the rate schedule is compensatory and appropriately balances the interests of the regulated firm and its customers. As noted above, the current CPI-based price cap has led to market-dominant rates that are not just and reasonable, because market dominant rates have not been compensatory as a whole.<sup>72</sup>

In addition, any price regulation system for market dominant products should be flexible enough that the Postal Service can establish prices for all products that cover their attributable costs. As noted above, the current CPI-based price cap has led to some market dominant products and classes that have not covered their attributable/incremental cost.

### **The Necessity of Resetting Market-Dominant Prices as a First Step**

Prior to beginning of any of the regulatory reforms discussed here, rate resetting would appear to be necessary so that market-dominant rates would be just and reasonable at the outset of a new regulatory system. Overall, current rates are significantly below what they need to be in order for the Postal Service to be financially viable, and immediate and sizable rate increases are needed to restore financial stability under any alternative regulatory plan. Such rate increases could also allow the Postal Service to reduce or eliminate the number of specific

---

<sup>71</sup> Calculations based on the Bureau of Labor Statistics Producer Price Index for Air Mail and Package Delivery Services (WPU301603) and the Producer Price Index for Courier and Messenger Service, Except Air (WPU301602). Both of these calculations are for private sector firms only.

<sup>72</sup> The accepted regulatory meaning of “just and reasonable” inheres the notion that rates must be compensatory but not excessive. In light of the Postal Service’s years of net losses, as well as its volume trends, the greater concern at this time, and for the foreseeable future, is that rates are not compensatory, not that they might yield excessive profits.

products that are “underwater.” These immediate rate increases are needed over and above future price increases allowed later under an alternative regulatory plan.

### ***Ex post* Regulation**

Under *ex post* regulation, the Postal Service would have considerable flexibility in setting rates without extensive prior review. The plan implemented in 2012 for Royal Mail, and affirmed in 2016-2017, by Ofcom is the starting point for the *ex post* regime for the Postal Service described below.

The main features of a feasible *ex post* regulatory regime for the Postal Service are as follows:

1. *Required notification of rate changes and limitation on the allowed frequency of increases.* Rate changes would occur once a year with 90 days’ notice. The rate filing would also include the Postal Service’s forecast of the likely path of rates over a reasonable time period as a measure to ensure the predictability of rates. In addition, the Postal Service would provide a narrative explaining any deviations from the forecasts in its rate filings.
2. *Prohibition of cross-subsidy.* Cross-subsidy safeguards would be in place to ensure that market-dominant products are not cross-subsidizing other market-dominant products (existing safeguards already exist to ensure that these products do not cross-subsidize the competitive product basket). In general, this would be accomplished by requiring all services cover their direct and indirect costs (i.e., incremental costs), unless justified by consideration of other pricing policies made applicable by the law.
3. *Rate changes consistent with forecasts presumed compliant.* Postal Service-set rates would be presumed to be just and reasonable, with the annual compliance review process (see item #4 below) and the PRC complaint process available to consumers to challenge this presumption.
4. *Performance monitoring and regulatory reviews.* The Commission would continue to monitor the Postal Service’s financial and service performance, and otherwise assess compliance with PAEA objectives and factors through the ACR process. The performance review would also be used to identify potential factors and issues that may trigger an early review of the plan (see below). The areas to be monitored would include:
  - a. Postal Service pricing and financial performance
  - b. Postal service efficiency and operating performance
  - c. Service quality and complaint process
  - d. Exogenous events that impact or could potentially impact Postal Service performance
  - e. Specific market information provided by stakeholders that may be of concern
5. *Duration of the system.* The plan would be in place for five years, after which a full review would occur. The plan could be reviewed sooner if warranted by such events as:



- a. Unanticipated deterioration in financial performance, lack of progress in achieving financial goals, or unanticipated windfalls in financial performance
- b. Unanticipated deterioration in operating performance or lack of progress in achieving efficiency goals
- c. Significant and protracted deterioration of service quality

### *Assessment*

Regarding the PAEA objectives, *ex post* regulation provides the greatest opportunity for the Postal Service to have adequate finances, and it also maximizes its pricing flexibility. It could also reduce the administrative burden of the ratemaking system. This is due to the fact that, for most products, the Postal Service would not have to prepare documentation of price cap compliance.

In terms of making rates predictable and the ratemaking process transparent, the proposed notification requirements for rate changes and the Commission's monitoring and review processes would address these objectives. In addition, these objectives would be addressed by the proposed narrative providing outlooks on anticipated rate changes, based on anticipated mail volume trends.

In terms of the incentives for cost efficiency, while the Postal Service does not have the same incentives inherent in the profit motive of private sector firms, there are other factors that incent it to perform efficiently. For example, the volume pressures faced by the Postal Service places an emphasis on effective resource management. Furthermore, incentives for efficient behavior are given by the requirement that the Postal Service would be subject to performance monitoring and regulatory reviews and that, ultimately, the Postal Service is accountable to its Governors and the U.S. Government.

Finally, if it is determined that additional protection is required for customers who use single-piece First Class Mail, a "safeguard cap" similar to that used by Ofcom for Royal Mail could be implemented. Balancing the interests of consumers for reasonable and predictable rates, this rate ceiling would be set high enough to allow the Postal Service the flexibility to set prices in keeping with its financial needs and its sensitivity to business risks.

### **Important Considerations for *Ex Ante* Forms of Regulation**

We believe an *ex post* regulatory system, such as that outlined above, holds promise for achieving the objectives for postal regulation. Such an *ex post* system would address the shortcomings of the current CPI price cap and avoid the potentially significant complexities and risks of attempting to design a more appropriate price cap for the Postal Service. However, if the PRC nevertheless continues with an *ex ante* form of regulation, there are a number of considerations that we believe to be important.

1. **Current rates are significantly below what they need to be in order for the Postal Service to be financially viable, and immediate and sizable rate increases are needed to restore financial stability under any *ex ante* plan.** Such rate increases will also potentially allow the Postal Service to reduce or eliminate the number of products that are “underwater.” These immediate rate increases are needed over and above future price increases allowed under the *ex ante* plan. In general, price regulation presumes that rates at the beginning of the regulatory period are just and reasonable. Using 2015 as a proxy and a relatively simple model, we estimated that market dominant rates are approximately 17% below the level needed for the Postal Service simply to break even.<sup>73</sup> We note however, that achieving break even does not necessarily imply that rates are just and reasonable or that financial stability has been attained.
2. **The time frame of any plan should be limited to no more than 4 or 5 years.** One major problem with the current price cap is that it could not be modified for over a ten-year period, which is significantly longer than any other price cap plan we have come across. Given the uncertainty concerning future mail volume trends, the price regulation plan that is adopted should be reviewed and modified as needed after no more than 4 or 5 years, which is a standard time frame for regulatory review across a number of industries and provides a more immediate opportunity to make adjustments for unanticipated conditions affecting the Postal Service.
3. **An “automatic stabilizer” (known as an earnings sharing mechanism) should be adopted.** These automatic stabilizers have been called a regulatory backstop that keeps the regulatory plan from getting too far off the mark. The automatic stabilizer looks at revenue sufficiency at the end of each year. If revenue is substantially above the revenue-adequate level, the automatic stabilizer makes a partial downward adjustment to rates. On the other hand, revenue is substantially below the revenue-adequate level, then the automatic stabilizer makes a partial upward adjustment to rates. The

---

<sup>73</sup> The simple model that we used to estimate the needed 13% rate increase for the Postal Service to break even in FY 2015 was based on the FY 2015 Cost and Revenue Analysis and the price elasticity estimates of market dominant products that were estimated by Thomas Thress. The 4.3% Exigent included in the 2015 rates needs to be added since it is no longer in place. The mechanics of the model are as follows. Starting with a proportionate increase in revenue per piece for each market dominant product, we use their price elasticities to estimate the changes in volume resulting from the price increases. We then compute the change in revenue and operating expenses resulting from the change in volume. The changes in operating expenses are based on the Cost and Revenue Analysis unit volume variable costs. Going through an iterative process, we identified the percentage increase in prices that led to a counterfactual net income of zero for FY 2015.

automatic stabilizer should be symmetric, with the stabilizer parameters being based on the amount of risk the Postal Service is willing to take.<sup>74</sup>

4. **Any plan should include a provision that the Postal Service can demonstrate a need to increase rates above whatever is allowed by the formula in order to cover costs.** This feature is part of the oil pipeline cap and is a little known element of the FCC price cap plan. For example, if the rate formula allowed a 3% rate increase, but this is not sufficient to cover prudently incurred Postal Service costs, the Postal Service could offer evidence showing that the rate increase is insufficient. This would be similar to the current exigency provision of the PAEA, though without the restrictions imposed by the “due to” clause.
5. **The formula should explicitly account for costs that are assessed either through statute or regulation that are not required of firms in the private sector.** The prefunding of retiree health benefits would be an example. These are handled through “Z factors” in telecom price caps.
6. **The Commission should reduce and broaden the number of baskets.** Reducing and broadening the number of baskets will allow the Postal Service greater pricing flexibility during the period of *ex ante* price regulation.
7. **Any cap approach to regulation should be based on changes in the Postal Service’s expected unit costs.** As is evident from the review above, in other instances where price caps or revenue caps have been used, the cap is generally based on changes in expected industry unit cost. Combined with more frequent plan reviews (see #2 above), an appropriately designed cap would likely lead to more successful outcomes.

In addition to the significant risks of attempting to design a more appropriate price or revenue cap as mentioned above, a downside of any continued price cap is that the Postal Service may

---

<sup>74</sup> In other industries where an automatic stabilizer has been used (e.g., telecommunications and electric utilities), there is a “no sharing” band around the authorized rate of return. For example, assuming a symmetric automatic stabilizer, this band could be +/-200 basis points around the authorized rate of return where no rate adjustment would occur and full sharing would occur beyond this band. Thus, if the authorized rate of return is 10%, the upper end of the band would be 12% and the lower end of the band would be 8%. Beyond these bands, rates would be adjusted to get earnings back to the no-sharing band. Thus, if actual returns rose above 12%, rates would be reduced to get the rate of return back to 12%, the upper end of the no-sharing band. If actual returns fell below 8%, rates would be increased to get the rate of return back to 8%, the lower end of the no-sharing band. This is the simplest example of an automatic stabilizer as, for example, the degree of sharing may be tapered as actual returns deviate from the authorized rate of return, beginning with a no-sharing band and, beyond that, a partial sharing band before full sharing would occur. For example: the no sharing band may be +/-200 basis points around the authorized rate of return; for earnings that deviate between 200 to 300 basis points from the authorized return, there may be 50/50 sharing between the firm and consumers (i.e., rates would be adjusted by 50% of the earnings deviation between 200 and 300 basis points); and for earnings that deviate by more than 300 basis points from the authorized return, there would be full sharing (i.e., rates would be adjusted for all of the earnings deviation beyond 300 basis points from the authorized rate of return).

To implement an automatic stabilizer for the Postal Service, the earnings concept corresponding to an authorized rate of return would need to be determined (e.g., a target level of net income that represents revenue sufficiency) and the structure of the no-sharing and/or partial sharing bands would need to be determined.

be directed to use its pricing flexibility to increase rates of products currently underwater, thus limiting the pricing increases allowed for other products. As is the case today, being forced to use pricing flexibility in this way could actually be counter-productive and ultimately could undermine long-run financial health of the Postal Service. However, these adverse possibilities should be mitigated or eliminated by periodic true-ups of rates not subject to price cap constraints.

## CONCLUSION

We conclude that the current regulatory system for market-dominant rates and classes is not meeting the PAEA's statutory criteria relating to financial stability of the Postal Service, affording the Postal Service adequate pricing flexibility, and the establishment of just and reasonable rates. Therefore, we believe the current price cap system of price regulation for the Postal Service must be replaced or at least modified.

Alternative regulatory approaches have adopted *ex post* price regulation (e.g., United Kingdom postal services as a replacement for its revenue cap, and U.S. railroad industry), or at least have abandoned price caps (e.g., Canadian postal services). In these industries, pressures from declining demand have been an important factor in the move to *ex post* regulation.

In terms of meeting the objectives of the PAEA, we conclude the following:

- *Ex post* price regulation, with various avenues for public notice of rates and Commission monitoring, provides the greatest opportunity to obtain adequate revenue to sustain universal postal service.
- This, in turn, would allow for the maintenance and improvement of service standards and enhance mail security.
- This would also maximize pricing flexibility.
- It would allow rates to be just and reasonable, in that they would become compensatory, while providing opportunities for the Commission to restrain rates found to be excessive.
- Market pressures, combined with Commission monitoring and oversight by other bodies, would provide adequate incentives for cost reduction and efficiency gains.
- The "forward guidance" and price-change notice requirements would provide predictability, stability, and transparency.

Another approach would be a modification of the current price cap system. From our review of price caps and revenue caps in other North American industry sectors and foreign postal systems, we conclude that these price caps tend to serve similar statutory goals: ensuring adequate revenues, promoting efficiency, providing for just and reasonable rates, and offering pricing flexibility. To achieve these goals, however, price or revenue caps must often consider multiple factors to reflect industry or firm-specific circumstances (e.g., unanticipated changes in volumes), automatic stabilizers, off-ramps, and periodic true-ups and fine-tuning. At the very least, a fundamental lesson from our review of the various price cap and revenue cap

approaches is that to accomplish its goals, the cap formula needs to consider expected industry unit cost trends and have the flexibility to make adjustments should this expected trend change.

## APPENDIX: KEY FEATURES OF THE ROYAL MAIL PRICING FLEXIBILITY REGIME

The main features of the Royal Mail plan are as follows:

- For universal services, price and non-price changes must be published with at least one month's notice
- For retail, non-universal services, there is no formal requirement for pre-notification or publication
- A safeguard cap on Second Class prices to protect vulnerable consumers, set substantially above then-current prices and increasing at the rate of CPI
- A monitoring regime that focuses on financial performance, operational performance, impacts on customers, and competition
- Encouragement of end-to-end competition
- Retention of access competition rules
- Publication of various performance metrics under plan
- Plan initially in place for seven years with the possibility of re-opening sooner (see above)

Universal Service. Ofcom proposed that the following characteristics should be specified:

definition of the product; delivery and collections six days a week for letters, five for packets; universal access; uniform and affordable prices; single piece, where applicable; speed and associated quality of service targets; dimensions and weight; and tracking.<sup>75</sup>

Notifications for universal services. Royal Mail was required to give "one month's notice of price and non-price changes to universal services.... [T]his required notice period [is] a minimum" and it is expected that Royal Mail "give more notice to its customers where this is required to meet the reasonable needs of universal service customers."<sup>76</sup>

Retail non-universal services. The publication and advance notification requirements for retail non-universal services was removed, other than as required to demonstrate compliance with the margin squeeze test applicable to access products.<sup>77</sup>

Safeguard cap. Ofcom noted that it had a duty to ensure that universal service remains affordable and were concerned with the impact of the pricing flexibility regime on low income and elderly populations.<sup>78</sup> For this reason, a "Safeguard Cap" was imposed on Second Class letters that was initially set at 55p for the first ounce (53% above the then-prevailing price level)

---

<sup>75</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 26.

<sup>76</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 70.

<sup>77</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 76.

<sup>78</sup> For example, see Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 6.

and that would then increase at the rate of the British CPI.<sup>79</sup> It was decided to use the CPI as the inflation measure instead of the RPI because the CPI was more consistent with the consumer population that the cap was designed to protect.<sup>80</sup> In addition, in its final decision, Ofcom decided to extend the Safeguard Cap to Second Class Large Letters and packets up to 2kg, for which the cap would apply to the basket but not individual prices, and similarly set the ceiling at 53% above the then-prevailing price levels.<sup>81</sup> In practice, Royal Mail has increased prices substantially but has not used the maximum pricing authority that the safeguard cap allows. This suggests that Ofcom set the safeguard cap high enough to protect consumers without hampering Royal Mail's pricing flexibility or its ability to manage its own financial stability.

Monitoring. Ofcom's monitoring of Royal Mail falls into four broad categories:

- Financial performance – operating margins, returns on capital, cash flow
- Operational performance – modernization/restructuring initiatives, quality of service targets
- Impact on customers/consumers – universal service prices, overall price and revenue increases in conjunction with profit margins and efficiency
- Competition – access prices, transfer charging, cost allocation<sup>82</sup>

The features of the monitoring regime include:

- Regular internal review by Ofcom... of data and indicators around financial performance, operating performance, consumers and competition
- Role for industry stakeholders to provide market specific information, identify any concerns on how the regime is operating and provide views on market developments
- Ability to conduct a review of the regulatory framework and intervene if there are persistent concerns...<sup>83</sup>

Access competition. Royal Mail was required to offer terms and conditions of access on a "fair and reasonable" basis, and adopt a reasonable, transparent and timely process to make requests for access contracts. Among other requirements were the publication and notification

---

<sup>79</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 131.

<sup>80</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 122.

<sup>81</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 131.

<sup>82</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, pp. 83-84.

<sup>83</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 101.

of standard price and non-price terms, and the provision of service quality information to access users.<sup>84</sup>

Transparency and publication of performance metrics. To ensure there is sufficient transparency of the regime, key information was made public in addition to the usual provision of data by Ofcom in the *Communications Market Report*. This additional data is designed to increase trust and confidence in the monitoring regime and also help identify issues of concern regarding operation of the regime.<sup>85</sup> Among the data and information made public are:

- Annual external statement on how the regime is meeting goals to secure the provision of universal service
- External publication of some financial data and operating metrics (subject to commercial confidentiality)
- Prices and non-price terms for universal service
- Summary of developments in the postal market
- Additional key postal market data published annually<sup>86</sup>

Term of plan. The plan was designed to run for seven years, but Ofcom noted this is subject to two “high level variables”: Royal Mail’s behavior and significant unanticipated market challenges. In this respect, Ofcom’s monitoring program is intended to identify significant concerns and understand if regulatory action might be required. With respect to Royal Mail’s behavior, this could be persistent negative performance in at least one of the monitored indicators such as profit, cost level, progress in modernization, price levels, or service quality. Market conditions would include factors outside of Royal Mail’s control that are significantly more challenging than anticipated.<sup>87</sup> As noted, above, the plan was reviewed beginning in 2015, largely because of the withdrawal of Whistl as a direct, end-to-end competitor. That review led to Ofcom’s May 2016 proposal to maintain the current plan and extend it for another five years upon completion of the review. This conclusion and extension of the plan was affirmed in Ofcom’s March 2017 final decision.<sup>88</sup>

---

<sup>84</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, pp. 178-179.

<sup>85</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 96.

<sup>86</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, p. 101.

<sup>87</sup> Ofcom, *Securing the Universal Postal Service, Decision on the New Regulatory Framework*, March 27, 2012, pp. 97-100.

<sup>88</sup> See Ofcom, *Review of the Regulation of Royal Mail*, March 1, 2017.